

Exploring Barriers to Time Spent on Social Studies and Science in K-6 Classrooms

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Abstract: That social studies and, to a lesser degree science, have become something of orphans in k-6 instruction is an open secret. The system of schooling in the US has increasingly become objectives and standards based. As this edifice has grown, it has demanded more measurability and thus more accountability. That accountability, through testing, is focused almost solely on math and language arts. This leads to a feedback loop, a cycle that encourages teachers- pressured by administrators- to spend increasing amounts of time on instruction in subjects that will demonstrate progress on scales of school success. As teachers feel and apply more pressure on students to succeed on assessments of math and language arts, more time is relegated to their instruction. Since the early part of this century, time spent on social studies and to a somewhat lesser extent, science, have consequently suffered nationwide, with some exceptions, from varied factors. I explore these factors, and the inevitable consequences, with the help of early career teachers in two states.

Keywords: Social studies, k-12 instruction, standards, accountability, early career teachers.

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Introduction

“If it is not a standard, then it is wasting our time”
(A teacher quoted by Boyle-Baise et al., 2008, p.239)

“Social studies and science education usually involved a video and discussion and if other things needed to be done, social studies/science were the first subjects to be tossed in order to make times for the other things.”
(Early Career Teacher [ECT] in the Mountain West)

That social studies and, to a lesser degree, science, have become something of orphans in k-6 instruction is an open secret. The system of schooling in the US has increasingly become objectives and standards based. As this edifice has grown, it has demanded ever more sophisticated measurability and accountability (Coburn, et al., 2016). Those metrics, through testing, are focused almost solely on math and language arts (Fitchett, et al,

2014). This leads to a feedback loop, a cycle that encourages teachers- pressured by administrators- to spend increasing amounts of time on instruction in subjects that will demonstrate progress on scales of school success. As teachers feel and apply more pressure on students to succeed on assessments of math and language arts, more time is relegated to their instruction. Since the early part of this century, social studies and to a somewhat lesser extent, science, have consequently suffered nationwide, with some exceptions, from varied factors, explored with the help of some early career teachers (ECTs) in two states.

Over time, high stakes testing limited to math and language arts has been the most common explanation for the lack of time dedicated to science and social studies in k-6 classrooms (and beyond) (Fitchett & Heafner, 2010; Vogler 2003). We codify a narrative of the subjects we choose to first standardize, then assess, and then attach high levels of school accountability to those assessments. As we necessarily devote more instruction time to subjects assessed, we create a null curriculum for American K-6 classrooms- science and social studies. We telegraph to teachers, who then communicate to students, that the process skills—*informed action, critical thinking, and awareness* (Hutton & Hembacher, 2018)—taught through these subjects have no place in American schooling. In the contemporary United States, we have consistently signaled to administrators, to teachers and parents and students, that only math and language arts are important to learn.

This raises interesting questions about who is making these decisions, and what this reveals about those with the power to determine what American students will learn in their classrooms. Foucault lurks in the competing social narratives of who will determine what students will learn as demonstrable truth and might suggest that those who favor the ‘clerks and machinists’ economic training mode of education have determined the outcome for students in K-6 classrooms (Dimitriadis & Kamberelis, 2006). Further, through the absence of process skills, students in later grades suffer from an inability to think and analyze critically (Journell, 2013). Thus, this null curriculum may have impacts far beyond the time children spend in k-6 classrooms.

Once easily explained away by the bugaboo of accountability through testing, it appears likely that the cause of a lack of instruction in social studies and science in American k-6 classrooms is far more varied and may offer up some uncomfortable conclusions. In addition to the emphasis on tested subjects and written standards, likely culprits explored in this work include:

- 1) feelings of teacher control and confidence to teach multifaceted process skills,
- 2) the controversial nature of both science and social studies, and finally,
- 3) a potential resultant resistance of teachers to effectively instruct in science and social studies constituting a form of salutary neglect.

Math and language arts have been objectified and standardized on a national scale through the Common Core State Standards. Setting educational goals defined solely by clarity and specificity leads to a simplified method for both assessment and data collection in diverse classrooms (Eisner, 1967; 2009). Because process driven skills can lead to novel interpretations, social studies and science can defy simple objectives. In many communities this can be a controversial path, causing many teachers to avoid topics that may offend community

members. If a comma is a comma, addition always consistent, the sciences, social and otherwise, carry the potential to produce student thinking outside that intended by the teacher, echoing Dewey's (1897) admonition to make a classroom a reflection of real life: messy and unpredictable. Many teachers, faced with competing time constraints in contemporary classrooms, prefer the order and clarity of instruction in language arts and math (Anderson, 2009). Both subjects lend themselves easily to seatwork, quiet reading, and worksheets; the favored tactics of many classroom teachers (Boyle-Baise, et al., 2008). When asked to compare, a clear majority of teachers, 96%, favored language arts first, followed by math (McEachron, 2009). This is perhaps the reason for claims that schools are increasingly seen as reading academies (Boyle-Baise, et al., 2008). If teachers continue to track towards the lecture and worksheet model of delivering content knowledge in a way that may lead to success on high stakes tests, teaching kids what to know—as opposed to Dewey's (1894) suggestion—learning to think, then perhaps it is better that process learning is left to upper grades (Curtis, et al., 2006).

Cobbled Method

This work represents a snapshot: of teachers, of classrooms, of practice. This is not exhaustive. Instead, consider it a peak into fairly typical classrooms in two different states near the bottom of the drop down menu. What follows is akin to planomenon, an expression of exploration through connection (Deleuze & Guattari, 1987). As such, we peer in and wonder whether these experiences match what we see through the literature, itself peeks into classrooms and what they reveal about teacher readiness and willingness to teach.

I reached out to a dozen early career teachers and sought their opinions regarding questions related to their experience of social studies and science instruction in their schools. Through this dialogue I located the links to themes in related literature. Because the experience emanating from teacher practice and the larger context of literature both corroborates established theories and confirms none of them we are left with an important question that guides this exploration: How do we account for the causes of a lack of time dedicated to the instruction of social studies and science in k-6 classrooms, and, more saliently, what might be the consequences of a long-term nullification of learning in these specific subjects? To begin to answer these questions, I engaged in conversations with early career teachers (from student teaching through the first several years) and, through their quotes, illuminated the links to the emergent themes in the literature.

Discussion of Literature and Results

Themes emerge: Time

“Yes, they valued science and social studies. They wanted to put more time into the day in which instruction included the subjects. However, many times they had to plan multidisciplinary lessons in order to include them.”

(ECT in the Mountain West)

"I believe my mentor teacher values science and social studies because it is integrated into math and science."

(ECT in the Mountain West)

Time spent instructing in social studies and science has been consistently verified as declining for some time (Fitchett, et al., 2014; Boyle-Baise, et al., 2008). These studies demonstrate the reduction of instructional time on science and social studies is relatively consistent, both across geographic areas and over the past few decades. That time increasingly has been reallocated to language arts and math, both growing 62 percent by cutting 44 percent from other subjects. During this time, social studies lost an average of 76 minutes per week (Boyle Baise, et al., 2008). Standardization and testing accountability, particularly in math and language arts, have driven the direction of school objective setting (Houser, et al., 2017).

Teachers at one representative district claim to instruct in social studies two to three times per week equaling less than 30 minutes (Anderson, 2009). In that district, this instruction primarily addressed good character, introductory lessons in tolerance and diversity, and map skills. Further, social studies has a place so long as it performs a support role for tested subjects or achieves some fuzzy goal of character education. Similarly, in a survey of California schools, half of the teachers reported spending less than half an hour weekly on social studies, scarcely a quarter spent any more than 3-4 days a week engaged in social studies, and less than 2 percent taught it daily. Half of the surveyed teachers reported they alternated between social studies and science when allocating instructional time (Hutton, et al., 2006). These findings are echoed in school districts across the nation, with social studies receiving the least amount of instructional time of the core subjects, typically less than two hours a week. It is, in short, a national phenomenon. Studies demonstrating the increasing marginalization of social studies find a theme of twenty minutes or less a day in lower grades (Good, et al., 2010; McEachron, 2009).

We may trace the origins of this testing regimen guiding educational practice to the scientific curriculum makers. The advocates of social efficiency and the objectification of subject matter include theorists Popham, Tyler, and Bobbitt. The effort at taming the peculiarities of educational outcomes (and controlling social complexity) has other antecedents, but the makers of scientific curriculum, attempting to apply scientific calculus to determine and enforce effectiveness puts them in a grandfatherly role for high stakes testing growing out of the era's emphasis on quantifying and harnessing intelligence. Bobbitt captures the moment: "The controlling purposes of education have not been sufficiently particularized... an age of science is demanding exactness and particularity" (Bobbitt, 2009, p 16). This idea, that we can create objectives and the measurement tools to accurately determine whether they are met, creates the system of accountability that favors objectifiable subjects over more subjective ones, and results in the potential relegation of science and social studies to ever smaller slices of instructional time. We ensure the dominance of the clock as primary author of the rush to efficiency, and codify external control as the mode of determining the work of schools. A creation of a system of standards then required a system of measurement, shifting control decisively from teachers to policy makers. (Darling-Hammond & Wise, 1985)

Themes emerge: Control

"I don't think it (social studies) is being ignored on purpose. We don't have any curriculum to use for either subject. I think it also isn't a priority since we just got our new math curriculum."

(ECT in Great Lakes region)

"Yes, they valued science and social studies. They wanted to put more time into the day in which instruction included the subjects. However, many times they had to plan multidisciplinary lessons in order to include them."

(ECT in Mountain West region)

"Science and social studies were not a high priority for my mentor teacher or the principal of my school."

(ECT in Mountain West region)

If we start with a supposition that time spent on social studies and science is largely determined by policymakers outside of classrooms, we must address issues of control. By delineating a system of education based on clear learning targets, or objectives, we increasingly create the necessity for a system of assessments to determine whether we are reaching those objectives. For Popham, the goal—achievable-- was to uncover the nebulous realm of learner outcomes (Popham, 1972) The resulting system was tasked with determining the assessments to measure learner outcomes, and who will be responsible for ensuring students reach the objectives. Current approaches echo, no mirror, this effort at objectification, removing teacher control from their classrooms.

The emphasis on high stakes testing directly determines the subjects teachers spend time planning and instructing, associated with the time spent on social studies and science in k-4 classrooms (Anderson 2009; Boyle-Baise, et al., 2008). As control of the work of teachers has intensified via interest groups and government action, measures of accountability- so that outside groups may measure success- have become more entrenched (Ingersoll, et al., 2011). This raises a host of issues. Most salient to this work include the short sightedness of testing driving instruction to the exclusion of certain subject areas while also contributing to teacher shortages due to attrition among teachers of color in underserved districts (Ingersoll, et al., 2019). Increased accountability achieves the technocratic supremacy over the art and craft of teaching leading to, one surmises, a loss of joyful practice.

As testing has become the means to hold schools accountable, teachers have had to adapt to an increasingly standardized reality. While classroom practice continues to outwardly appear under the control of the teacher (providing a convenient scapegoat when things go wrong), they are constrained by systems of by codified expectations. Demands made on teachers may in subtle ways determine outcomes that seem on the surface to be within their control (Pace, 2011; Wills & Sandholtz, 2009). As the pressure on administrators to meet benchmarks increases, so does the tendency to take curricular decision making out of the hands of classroom teachers and replace autonomy with prescribed curriculum designed specifically-- often by the testing

companies themselves-- to standardized educational approaches in preparation for mandated assessments (Severance et al., 2016). This loss of autonomy is more pronounced in high minority districts, where teachers feel the greatest loss of classroom control (Hong & Hamot, 2019). Even when ready-made curricula is not enforced, hierarchical control persists, limiting instructional decisions, and impacting time spent on social studies (Huck, 2020). To do otherwise is considered a risk (Wills & Sandholtz, 2009; Moran, 2015).

Risk in American education becomes something of a paradox. When exploited by policy makers (when risk is used to illustrate perceived threats to the American enterprise, say, the Soviets in the wake of Sputnik, or Japan in the reaction to industrial in-efficiency in the 1980s) it motivates changes to schooling resulting in things like accountability through testing. In contrast, risk can encompass aversion to taking chances, a natural consequence of external testing regimens—risk avoidance. If we take a contemporary approach to the purposes of education, that of preparing students to participate in the economy of tomorrow, risk taking, experimental strategies, and creativity ought to be the norm—embracing risk. However, as a response to testing, risk taking becomes, well, too risky, and schools avoid innovation in favor of preparing students for short term success on high stakes assessments (Moran, 2015). Or, more plainly suggested by one teacher, “if it is not a standard, then it is wasting our time” (Boyle-Baise et al., 2008 p. 239).

Reactions, like the National Defense Education Act, when seen through the lenses of socio-economic and gender, take on added impact when discussing issues of control. If thought of as a top down statist approach, initiatives like NDEA and No Child Left Behind (or its 2016 revision as Every Student Succeeds Act) appear to share as goals the teacher-proofing of curriculum and removal of autonomy from a majority female workforce. The removal of autonomy and control from teachers is part of a larger social process, the ‘proletarianization’ of teachers, through a sort of panopticon approach to determining and monitoring the actions of hitherto potentially autonomous actors. This mirrors a larger labor trend, the scientific management of workers reflecting a reverence for Taylorism, a managerial movement that, while never fully de-skilling workers, did alter permanently the social perceptions of their appropriate subservient role and behavior and enabled the carving up of labor into discrete units of time, a tool of bodily exploitation (Apple, 2009; Graeber, 2018). We map a terrain for the slow erosion of teacher professionalism. With each passing generation of teachers, we lose more and more control over the inputs and outcomes in our classrooms. The inevitable result is teachers, working in their professional terrain, removed of autonomy, operating as pedagogical technicians, enacting discrete scripted learning events (Moran 2015). Not so long, then, until teachers can be re-classified as service employees, an emerging proletariat (Hill, 2022).

The removal of autonomy represented by a testing regimen suggests other social consequences as well. A system that grades schools based on testing outcomes tends to punish schools in areas that traditionally struggle in this realm, an outcome that further ossifies disparities among school districts. Testing itself is fraught with a host of historically significant implications, from IQ tests that marginalized students of color to the Social Efficiency movement that sought to prepare students for an industrialized economy. And here the testing movement may be open to charges of not only marginalization, but a conspicuous effort to maintain socio-

economic stratification (Cole-Malott & Malott, 2016). The movement represented by testing, mirrored in the social efficiency school, was (is) intended to produce factory workers, clerks and secretaries. The skills most valued: basic reading, penmanship, math and obedience. There is little room for the systems of scientific inquiry, creativity, or the process skills inherent in social studies- bias detection, critical literacy, and meta-analysis- and these are disappearing (Boyle-Baise et al., 2008). Thus, the absence of social studies and science in a system where social efficiency has won Kliebard's (1995) struggle for the American curriculum is no longer surprising. If the goal of American education is to produce a manufacturing workforce, then a prescribed, standardized, Taylorized, and constantly measured educational approach is not just warranted but essential. Ironically, instead of liberalizing, or creating economic freedom through a good job, this becomes an approach favored by those adhering to a Marxian materialist dialectic, one class of decision makers determining reality for another class and creating the system of measurement to determine success and failure. Or, a plague-town education system preparing students for a plague-town civic space- one characterized by always on systems of surveillance (Hikida, & Taylor, 2023). When used at all, social studies is utilized as a vehicle for honing language arts skills, teaching character, or practicing non-fiction comprehension (Boyle-Baise et al., 2008). If a teacher is to challenge this system and create a classroom where social studies and science become not just another approach to math and language arts, where they stand as disciplines in their own right, they must have the competence and confidence necessary to take that risk and be able to justify the time spent to building administrators and parents.

Competence/Confidence

"As for Social Studies, that is one subject I haven't taught yet by itself. We kind of have a social studies built in with our ela curriculum, but it's more focused on the social aspect of things, if that makes sense."

(ECT in Great Lakes region)

"No. Social studies and science education usually involved a video and discussion and if other things needed to be done, social studies/science were the first subjects to be tossed in order to make time for other things."

(ECT in Mountain West)

Many teachers, in the absence of time to teach and control over what to teach, may lack the confidence in the instruction of science and social studies to carve out instructional time. This may further be complicated by teachers struggling with the controversial nature of some social studies and science instruction. Teachers may also struggle when designing curriculum that addresses process-based skills. Social studies and science share the characteristics of a systemized approach to investigating the world, using and verifying sources, understanding biases, cause and effect, collecting and interpreting data (WDE, 2014), and meta-analysis of an individual's place and impact on their world. Many teachers potentially, when confronting this level of complexity while developing curriculum, will revert to, as Dewey calls it, "ready-made info transmitted to the learner and instruction delivered in lock-step fashion" (Dimitriadis & Kamberelis, 2006 p.11).

Lambert and Morgan (2009) would argue that due to increasing centralization teachers have seen that the actual design of curriculum has been so farmed out to outside forces for so long that many lack the agency to write and design curriculum for themselves. Indeed, it has been the experience that most instruction exists in the classroom on day one, whether in the form of immersive textbooks that provide step by step instructions for lesson development for varying learning styles and level, or in modules provided with all instructive texts. The goal has been to reduce the time and burden a cumbersome curriculum imposes on students; instead the result has been to reduce the power and efficacy, and, likely, this researcher supposes, the confidence teachers have when developing curriculum that is both new and tailored to a specific set of circumstances (Lambert & Morgan, 2009; Ro, 2019).

Teachers struggle with a paradox when confronting curriculum design. They crave the range and agency to make determinations leading to the most effective and responsive lesson possible, but at the same time need a well-defined space with established boundaries of expectations placed on them from outside experts or administration. The suggestion is, that while text book manufacturers have begun providing prescriptive curriculum, they have taken the self confidence from teachers to produce their own work. So instead of an adaptable, reflective, and flexible classroom, we get standardized curriculum (Houser, et al., 2017). Add to this the pressures applied by high stakes testing (provided by the very same publishers producing those all-encompassing texts) and teachers feel ill-equipped to make their own decisions regarding what should be taught and when in their classrooms. If the school focuses on success in a single high stakes test, largely because a state has installed a one size fits all curriculum and then use that to measure the effectiveness of teachers, then it is understandable when teachers lose interest and confidence in the generation of their own idiosyncratic curriculum and embrace these ready-made units. After all, their jobs are now on the line (NCTQ, 2015; Weaven & Clark, 2015). In the end, teachers struggle with original curriculum because they lack the time resources and confidence to initiate the difficult processes of designing a complete curriculum, what to include, what to discard, and how to determine those decisions (Shay, 2016).

Teachers, when developing original curriculum, ask themselves typical questions. What skills and values do students need to face complex societal issues? What model or framework works best and for which curriculum? What knowledge ought curriculum to require? How can students connect "thinking with doing" (Sugawara & Luca, 2009. p. 9)? The literature demonstrates that curriculum changes are important, but, largely, does not address the process or the "how" of curriculum development. This is difficult for teachers (and students), they struggle with a narrowing of both creativity and space to pursue novel curriculum, while seeking more guidelines to define the process (Berliner, 2011; Weaven & Clark, 2015).

No doubt many teachers are turned off by what Lambert and Morgan (2009) refer to as curriculum as a convoluted and fluid battleground. Or, put another way, teachers, already overextended with the demands on their limited time and resources, opt not to develop an entirely new curriculum because it is difficult and time consuming, it is potentially controversial, and it goes against the textbook protocol established by many schools. Should curriculum as Lambert and Morgan (2009) suggest, encompass learning and decision making in

environmental and social contexts, reliant on an evocation of values in the classroom? This question gets at some of the complexity involved when going off script and generating new curriculum. There are no disinterested parties, the only unknown is when those groups will rear their heads. Because the process of curriculum development is so politicized, teachers tend to stay away. Teachers are now more regulated, ruled, and guided than ever and thus, far from being classroom dictators, cobble small tidbits of autonomy together to produce their desired outcomes. According to Bandura's self-efficacy theory, teachers can only instill values in their kids if they feel confident and autonomous enough to have these values themselves (Dierking & Fox, 2013).

Themes Emerge: Controversy

"I made it a point to include as much science and social studies at the end of the day as possible. The kids loved it. For example, together with the kids, we did a unit on penguins while we also focused on the geography of the southern hemisphere. During this time, we also made didgeridoos and had a didgeridoo concert. We also studied heredity with puppies and made our own designer dogs. We also focused heavily on space and spent a significant amount of time learning about moon phases. The kids had a blast."

(ECT in the Mountain west)

Historically, education has been conceived of as a way to balance competing values in the American experiment, such as freedom and order. It is, in many ways, the original goal of American education, the passing on of cultural values to the youth of a nascent United States, an early form of character education. Teach citizens to be moral and they will create a stable republic (Kaestle, 1983). This is the virtue and values education—how we enculturate, how we teach young people to be human (Duplass, 2011). How much, however, character education is reaction to the controversial nature of social studies and science is contingent how much control we are willing to cede. If we give students the tools to ask questions, we may not like the answers that they come up with. Perhaps then, character education (and, the rather uncontroversial science approaches revealed in answers... the growth of trees or genetic diversity of puppies) is a reaction to the danger of challenging cultural mores, or, of challenging parental or community values. Who, in the end, can really quibble with character education-- we deify the persistence of Thomas Edison, or the honesty of George Washington. According to one study, when asked about the role of social studies education, teachers most often suggested the goal was to create responsible citizens; a citizenship transmission (VanFossen 2005). This is a convincingly simple and common response. The straightforward nature of the answer belies the inherent complexities underlying it. Until we can agree as a society what constitutes a good citizen (one who questions the dominant narrative, propels the society forward, creates space for tolerance and diversity, or is it respect for authority and loyalty to one's nation?) we struggle to appropriately instruct it. And yet, if social studies and science are taught as a series of memorized content, of incontrovertible facts, without instruction in the underlying systems of questioning, then they become yet another system of banking, a series of factoids that we then expect to be delivered back to us. Content without process is shallow and stultifying. Or, as Paulo Freire (1970) writes, "To glorify democracy and to silence the people is a farce" (p.91).

It is likely not a coincidence that Science and Social studies do not have Common Core State Standards (CCSS) attached to them in grades K-6. After 6th grade they consist of subheadings to the literacy standards (corestandards.org, 2018). It is also not a coincidence that these are the subjects with the least time devoted to them (David, 2011). Science and social studies are inherently controversial (Camicia, 2008; Miller & Toth, 2014). While math and language arts are concrete and rarely challenge societal and cultural attitudes, social studies and science have the potential to be at odds with family and local mores (think global warming or causes of the Civil War). “The social studies curriculum in the United States has been a perennial source of controversy. Disputes over history curriculum have been an especially contentious component of the American educational landscape” (Camicia 2008 p.302).

An (2014) suggests that most social studies work revolves around rights and responsibilities. Or through question posing- how does one become the participating citizen of a nation? This requires patriotism, thus exposing the underlying paradox at the heart of social studies. Patriotism, indeed the concept of nationalism, Einstein’s “that infantile disease... the measles of mankind” (Vierek, 1929) precludes critical analysis of nations and their governments if that criticism is seen as unpatriotic (An, 2014). This situation is especially pronounced in grade school, which utilizes the Expanding Communities curriculum intended to reflect the development patterns of the students studying it- we start with the self, expanding to family, the neighborhood, town- stopping the expansion at nations (Duplass, 2011; Russell & Waters, 2021). This predominant strategy then uses the student’s nation as a tool to compare and contrast with other nations, mirroring Peggy McIntosh’s (2009) submission of nationalism as “a series of concentric loyalties” radiating out from place (p. 388). There is no acknowledgement of a global citizenry, only the initial steps towards othering different cultures.

As in social studies, science is subject to the same controversial pressures, where, “those who have wielded power in this country over defining narratives tend to push back, they fear a loss of ‘social solidarity’ where others represent a threat to stability and so tend to be gotten rid of physically or psychologically” (Miller & Toth, 2014 p.239). Early career teachers’ fear of becoming an outsider, concerns about community or school norms, or personal viewpoints leads to a rejection of controversial subjects. To take just one example, a third of teachers spend less than six hours in high school on the subject of evolution, 20% don’t cover it at all (Hermann, 2011). This raises the question, are subjects like the causes of the Civil War, or evolution or global warming controversial because as a society we cannot reach consensus on who will control competing narratives, or do we avoid them based on their potential to be controversial? Put another way, do only a third of Americans believe in the concept of evolution because of societal constraint: religion, tribalism, political disposition, or because teachers, fearing those same constraints, refuse to educate students in scientific and social studies process skills (Masci, 2017).

In grade school it is important that students get the foundational science skills to be able to evaluate claims in later years, including things like creationism. It may be because Americans don’t have these skills that they cannot determine the scientific veracity of things like evolution. But what if they learn the wrong things from elementary teachers not equipped to handle complex topics like science and social studies? What if by learning

the storybook tales about Columbus sailing to prove the world was round, or a flawed version of the first Thanksgiving or the simplistic construction of Abraham Lincoln singlehandedly ending slavery, they then resist the more complex and accurate learning in later years? In 17 years of classroom instruction in social studies, I often commented that much of my efforts were spent dispelling the myths students had learned in previous grades.

Perhaps if we can't do social studies or science right, we should avoid it all together. Do we cause harm by having K-6 teachers instruct in subject areas that they are not qualified to broach? Journell (2013) promotes the process of critical dialogue, of debating and holding different viewpoints, as a central process developing skill in social studies. In short, controversy is key. It exposes students to that challenging counter-narrative. These can be historical controversies but may be most dynamic when discussing public solutions to public problems (Journell, 2013; Hess, 2009; Rubin, 2012). And what happens when teachers refuse to teach these things because they don't accept the science, or the history? Both slavery and evolution are central concepts in any study of the social studies and science, and yet many teachers ignore them, either out of an avoidance of the controversy, or because they themselves do not hold the views of the established scholarship.

Themes Emerge: Salutory Neglect

Should teachers wait until they are experts in the subject areas before teaching social studies and science? Maybe we should just stick to the basics in K-6- the tools- and wait for the more complex subject matter to be broached with content experts "Not surprisingly, recent findings indicate that elementary school teachers devalue social studies, misunderstand its purpose, and fail to utilize powerful instructional methods" (Boyle-Baise et al., 2008). In a survey of over 500 elementary teachers in Indiana, one researcher found that a majority ranked social studies last among core subjects (reading/language arts, math, science, and social studies) and that only one third identified its purpose as citizenship education (VanFossen, 2005). If teachers feel incapable, untrained, or lack any sense of value for the disciplines of social studies and science perhaps it is better if they do not spend time on their instruction. Or, conversely, social studies is relegated to transitory times in the day—snack time, as Whitlock and Bruger (2019) write, or recess; a form of character development, enabling schools to suggest they are dedicating resources to the discipline. Students might, in the long term, be better off if not exposed to half conceived lessons over vital process skills in these subjects. It might be possible that no approach is better than an unskilled one. High stakes testing might not be the reason social studies and science are neglected in K-6 classrooms.

All states currently test grades 3-8 in math and language arts and teachers consistently suggest that this informs the decisions they make about time spent on instruction in their classrooms, "impacting curriculum, quality of instruction, and instructional time" (Anderson, 2009 p. 413). And yet, studies have shown that time spent engaged in social studies and science instruction has not changed substantially in the years between the 1970s and now, an era that has seen the rise of the high stakes testing regimen. What if, then, decisions made at the governmental level have not impacted teacher decisions about subject emphasis? Between 1970 and 2010 time

allocated for language arts remained relatively steady at 35% of classroom time, math at 17%, and social studies at 5% across the time period (Anderson, 2009). This suggests that there are other factors at play, and testing is just a convenient excuse.

Social studies and science are hard to teach. Language arts and math are relatively concrete, easy to assess, and typically uncontroversial. While teachers suggest that they value critical analysis and thinking, as much as eighty percent of their instruction consists of lecture and reading worksheets (Curtis, et al., 2006). As Pianta (2007) roughly 90% of classroom time is spent on teacher directed whole class/seatwork instruction, a similar number to 1970. Further, a study from 1912 suggests that teachers then relied on basic recall questions too, “smothering student expression” (Anderson, 2009 p.414), suggesting that teachers have not altered practice in a century; they still teach and test over the bottom levels of Bloom’s taxonomy- knowledge and comprehension (Rubin & Giarelli, 2013). So, is accountability at fault? If social studies and science require a level of process instruction and critical learning strategies, then students would not be well served by a model that persists in educating at the lowest level of Bloom. And does this account for the alienation students and teachers feel in social studies and science classrooms as well as our inability to tolerate controversial subject matter (Moran, 2015)? If, as Dewey (1897) said, history is lifeless and inert if removed from the lived experience of the child, then we may be doing more damage pursuing half measures and estranging students from vital engagement strategies. We create the narrative of social studies as simply the recall of dates, or states and capitals, and hamper students in the subject when they, and their teachers, reach a point of effectively engaging with the subject matter. As Maxine Greene writes, a generic learner is paired with a system, or curriculum (the enforcer of reality)- “pre-existent and objectively real”- that alienates both because it appeals neither to “existential predicament or primordial consciousness, the process of knowing” (Greene, 2009, p. 164).

The lack of instructional time devoted to science and social studies has been corroborated across the country. It is reflected in quoted experience of ECTs in multiple states. The answer to the question of whether schools are devoting time and resources to these subjects is, with few exceptions, no. Thus, the thrust of this research becomes why? In tracing the causes of the lack of time allocation we discover a perception of a dearth of control leading to decreasing levels of confidence in the subject matter, teacher avoidance of controversy, or even perhaps, because teachers simply do not enjoy the complexity and inconclusiveness of process skill training.

Conclusion

“I’m sure both people would love students to have more time to study science and social studies, however, my first grade students were not tested in these subjects. I taught at a Title 1 school, and it was very important for both my principal and my mentor teacher to make sure students were showing growth in the content areas of reading and math. We would even have extended day interventions in these areas to make sure all students were at grade level for these subjects. Because most of the time in the day was dedicated to either reading or math, social studies and science was shoved into a 35-minute block at the end of the day, however, there was no

required curriculum, and teachers were only encouraged to use this block for science and social studies. It was more suggested science and social studies time, but not mandatory.”

(ECT in the Mountain West)

What happens when social studies and science become the null curriculum? Freire calls this “the theme of silence” (152). When we fail to acknowledge the reality of generative themes (our ability to impact and change our world, our thematic universe) we engage in static approaches, silencing creative power by not allowing it to exist. Thus, we preserve the reality as we found it and, by definition, participate in banking, or a refusal of dialogue. What if we are teaching our kids that civics or scientific inquiry just don’t matter? What happens when the null curriculum is the process skills necessary to functioning society? When we make decisions that disfavor student exploration in science and social studies from their earliest exposure to education, we set the tone for a mindset favoring content knowledge acquisition and regurgitation and create students who resist later attempts at process skill introduction. If we start with Dewey’s (1897) supposition that education and a democratic society are co-constructive with a focus not on knowing stuff, but knowing how to sustain community and connection with one another, then our current emphases in K-6 classrooms are out of balance. Functioning in a democracy (or a republic, as it were) requires that sort of deep reflective work that binds new and old, the person to the material, and the person to the community. It is a process of discourse that by design is constantly in flux, establishing and reestablishing knowledge as actors react and reflect on the changing world around them.

These themes in social studies and science are difficult to assess in any conventional way. Perhaps we can see the effects of their absence when we look around. Bernstein (2000) proposes a pedagogical model: An elucidation of rights, enhancement- the expanded role of the individual, inclusion- and the individual participating in social surroundings- politics (Bernstein, 2000). We can see the potential power (and rediscover some hope) when watching teachers as they regain some measure of power and control over schools by mass action, by a self-realized class of Gramscian organic intellectuals to pressure state legislatures across the United States. Thus, through the re-empowerment of teachers, who can then empower students, we can reassert some measure of real democracy, one where American youth have the capacity to deliberate thoughtfully.

But students have not been granted that capacity, because we don’t allocate time and resources to the teaching of the skills necessary in functioning democracy- detecting bias, critical reading, cause and effect, meta-analysis. If social studies and science have been back-burner subjects since at least the 1970s (Boyle-Baise et al., 2008), can we start to see the consequences of decisions about time in the classroom? There appears to be something of a negative feedback loop in American education concerning these neglected subjects. A lack of effective social studies and science instruction leads to a rise in students with a decided lack of critical analysis skills, leading to these subjects becoming more controversial and thus teachers allocating even less instruction time-- again, their jobs are on the line (Weaven & Clark, 2015)-- which leads to even worse attitudes regarding civil discourse and the merits of the scientific method. This loop continues when students who lack critical process skills then make poor decisions about representation leading to further crack-downs on themes deemed controversial. Can we

make a case that the lack of the key skills elucidated through social studies and science leads to a national population that becomes even more resistant to these critical skills? The consequences are plainly obvious. A society that has effective civics instruction does not elect a Father Coughlin-like nihilist to national office, it does not elevate a character like Cliven Bundy to a folk hero. A society that has a strong background in scientific thinking does not allow industry to write its environmental regulations, does not deny anthropogenic climate change. A society with strong social studies and science education does not see, as the SPLC reports, “heightened anxiety and concern on the part of students worried about the impact of the election(s) on themselves and their families” and “verbal harassment, the use of slurs and derogatory language, and disturbing incidents involving swastikas, Nazi salutes, and Confederate flags” (Nygreen, et al., 2017. p. 341).

Further, can we trace this anti-intellectualism, or at least a reduced exposure to opposing viewpoints and controversial ideas, for the rise in reactionary campus student groups? When students arrive on college campuses, and are exposed to many narratives running counter to everything they learned, (or didn’t learn in K-6 and beyond classrooms), they may go into a bunker mentality, defined by the question, ‘if this were true, wouldn’t I have learned it already?’ When students first confront counter-narratives to those they faced in public schools, they react tribally, claiming marginalization by liberal professor limiting their freedoms of expression (Nygreen et al., 2017). The lacuna of effective instruction in science and social studies, even in high school, leaves students vulnerable to constructing narratives that fuel the idea that universities are hotbeds of socialist anti-American doctrine. This idea has come to dominate the story of colleges in the United States and reflects the over-all growing hostility to experts in this country. Even narrow debates about the role of testing in diminishing social studies echo larger cultural themes surrounding the core curricular question, the complex conversation: what knowledge is of most worth (Evans, 2015; Pinar, 2005). All of this occurs at a time when as a society we face greater challenges that require novel and creative solutions and cooperation. Here, at what may be the nadir of civil discourse, solutions elude us due potentially to the lack of a strong foundation in social studies and science process skills.

Recommendations

A final, thorny question: Which system is preferred; a current one that presents indigenous peoples as props in a national narrative of destiny represented in sanguinary detail by cringe inducing Thanksgiving pageants, or one that embraces a deeper more critical appraisal of systems incorporating indigenous knowledges? That we debate this, even if implicitly, is damaging-- damning-- to a future in which we’ll need young people equipped to solve the challenges we are passing on. I wrestle with this concept of salutary neglect. But unless we commit to a radical change not just in how we structure public schools and time spent, but in how we approach teacher preparation, then we embrace stasis I think we can prepare ECTs to venture into classrooms with the confidence and competence to teach the ingrained process skills so needed and also to take on leadership roles to reassert professional control. Equipping early career teachers with the tools to facilitate broad learning experiences that value the importance of the skills and knowings represented by science and social studies can only occur

through the removal of high stakes summative assessments and a return of control to (re)professionalized teachers confident in their classrooms and making curricular decisions to improve outcomes.

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